

**CASE REPORT****A Rare Case of Massive Hematocolpos Due to Imperforate Hymen**MEHER-UN-NISA<sup>1</sup>, ANDLEEB ARSHAD<sup>2</sup>, SAIRA IQBAL<sup>3</sup>, KOMAL MANNAN<sup>4</sup>, SHAHAB SAAD ALI<sup>5</sup>, BUSHRA SAEED<sup>6</sup><sup>1</sup>Head of Department of Obstetrics and Gynecology Unit-3, Lahore General Hospital, Ameer un Din Medical College, PGMI Lahore.<sup>2,3</sup>Senior Registrars Gyne-3, Department of Obstetrics & Gynecology, Unit-III, Lahore General Hospital, Lahore.<sup>4,5,6</sup>Registrars Gyne-3, Department of Obstetrics & Gynecology, Unit-III, Lahore General Hospital, Lahore.Correspondence to Professor Dr. Meher-un-Nisa, Email: [drmehersajawal@gmail.com](mailto:drmehersajawal@gmail.com), Tel: 0300-5334413**SUMMARY**

Imperforate hymen is a very rare anomaly of female reproductive system due to failure of complete canalization of endoderm of urogenital sinus thus obstructing the vaginal opening<sup>1</sup>. The condition is often diagnosed late due to its low incidence, nonspecific presentation & insufficient physical examination. The teenage girls with imperforate hymen generally present with cyclical lower abdominal pain without the menstruation being established, urinary retention or constipation and sometimes as lower abdominal mass. Diagnosis is clinical and confirmed by ultrasound. It is treated surgically.

**Keywords:** Primary amenorrhea, imperforate hymen, haematocolpos

**INTRODUCTION**

Hematocolpos is defined as collection of menstrual blood in vagina as a result of outlet obstruction mostly due to imperforate hymen. Imperforate hymen is a rare obstructive anomaly of female genital tract. Its incidence is reported to be 0.01%-0.05% in adolescent girls<sup>1</sup>. It occurs mostly in sporadic manner but cases in families have also been documented with both modes of inheritance recessive as well as dominant<sup>2</sup>. In patients who present with primary amenorrhea and they have normal secondary sexual characters with a uterus, the leading cause is obstruction due to either a vaginal septum or intact hymen<sup>3</sup>.

The diagnosis is made at the age of menarche. It is suspected in any peripubertal girls who present with lack of menarche and monthly pain in lower abdomen<sup>4</sup>. Sometimes they present with urinary retention<sup>5</sup>. In this case report, a case of imperforate hymen with hematocolpos in a 14-year girl is presented who came in outpatient department with pain in hypo gastric region, retention of urine & unable to start menses.

**CASE REPORT**

The consent was taken from Institutional Review Board of Lahore General Hospital, Lahore, Pakistan. A young girl of 14 years with good health & physical condition has presented on 12<sup>th</sup> January, 2021 in the outpatient department of Obstetrics and Gynecology Unit-3 with the complaint of inability to establish menstruation & cyclical lower abdominal pain for the last 3 months. She was the youngest daughter of her parents with two elder sisters. Her mother & sisters had spontaneous menarche at the age of 13.

She experienced lower abdominal pain every month that was sudden in onset, mild-to-moderate in intensity, cyclical in nature, cramping in character, non-radiating to any other site and relieved by taking analgesics.

She had normal breast development with normally distributed axillary & pubic hairs. There was no complaint of weight loss, excessive exercise, loss of appetite & sleep, heat & cold intolerance, or lethargy & constipation neither she gave any history of mood swings, hot flushes, irritability & anxiety. She had no complaint of acne & hirsutism neither any complaint of loss of smell, headache, blurring of vision or milky discharge from nipples. There was no history of any chronic illness or Tuberculosis neither any history of head trauma, brain surgery, chemotherapy, or radiotherapy.

The general physical examination of the patient was unremarkable. On inspection of chest, breasts were normal looking with Tanner Stage 4 having no discharge from nipples. Normal axillary & pubic hair growth was present. On abdominal examination, there was soft, non-tender 18 cm mass palpable in lower abdomen. There were no gonads palpable in groin. On local

examination of genitalia, the vulva was normal looking and the hymen was imperforate bulging with bluish discoloration. The rectal examination revealed a mobile, slightly tender mass arising from the pelvis and almost reaching the umbilicus. Ultrasound and MRI showed a huge mass occupying vagina and there was no anomaly of urinary tract.

After taking consent from parents, she underwent hymenectomy under general anesthesia on 14<sup>th</sup> January, 2021. On 'Examination under Anesthesia' imperforate hymen was noted and a 16-18-week size mass felt during rectal examination occupying hypogastrium. With a finger in rectum pushing the hematocolpose down, a little bulge was created. A needle was passed through the mass and chocolate-colored blood aspirated (Fig.1). Two artery forceps applied below & above the needle prick. A small incision was given & chocolate-colored blood allowed to drain (Fig.2). About 700-1000 mL thick, old blood was drained. Vagina was cleaned after draining the blood and edges of the opening everted by applying stitches (Fig.3). Hemostasis secured. Virginity sparing surgery was done creating a hole in the center of hymen for menstrual blood to flow keeping rest of hymen intact.

Post operatively, patient was given a vaginal mould for insertion into vagina to keep it patent. She was discharged on third post-operative day in good condition. She came back after 20 days for follow up and reported that she has normal menstruation and mild dysmenorrhea.

Fig 1 Needle passed through intact hymen



Fig 2: Chocolate colored blood drained after incising hymen



Received on 24-09-2021

Accepted on 14-03-2022

Fig 3: Hemostasis secured



## DISCUSSION

At 8<sup>th</sup> week of development of embryo, the lower part of paramesonephric ducts unite to form a canal which forms uterus, while vagina develops from swellings called sinovaginal bulb. By 5<sup>th</sup> month of development, vagina is almost completely formed. The hymen has double origin from both sino vaginal bulb and urogenital sinus. It is a membrane that separates the vagina from vestibule. The hymen protects against infection especially in pre pubertal girls when there is lack of development of immunity in vagina<sup>5</sup>.

The defects in development of vagina can occur in any of the four phases of development of vagina i.e. differentiation, migration, fusion, and canalization. There is overlap in development of genital and urinary systems, so patient may present with renal & ureteric anomalies.

In teenage girls who present with primary amenorrhea along with normal development of secondary sexual characters and with presence of a uterus, the most common underlying cause is an intact hymen as noted in this case report. The hymen mostly perforates in fetal life and sometimes in the perinatal period<sup>6</sup>.

The patient can present clinically with lower abdominal pain and urinary retention due to collection of blood in vagina which acts like a mass and obstructs urine flow as noted in our case report. As the urinary and genital systems develop side by side, anomalies of urinary tract are reported to as high as in 50% of cases like ectopic ureter, pelvic kidney, etc<sup>7</sup>. Both conditions are diagnosed clinically as well by ultrasound and MRI<sup>7</sup>. In our case no anomaly of urinary tract was detected on on MRI.

The definite management of imperforate hymen is surgical resection. Virginity-sparing techniques have been reported in literature<sup>8,9</sup>. Standard surgical treatment of imperforate hymen involves giving a cruciate incision in the center of hymen and let the collected blood in vagina to drain<sup>10,11,12</sup> as done in our case. The delayed treatment may lead to retrograde menstruation,

hematometra, haematosalpinx and hence endometriosis and infertility.

## CONCLUSION

The early diagnosis of imperforate hymen by history, physical examination and imaging techniques in adolescent girls has good prognosis and less chance of complications like endometriosis.

**Acknowledgement:** I would like to thank our patient & her family for their cooperation.

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